

60.130-1815; 03MRA0139

IN THE CLAIMS

1. (Currently Amended) A cutting machine comprising:
  - a lead screw assembly having a tool holder;
  - first and second motors; and
  - a coupling assembly interconnecting the first and second motors to the lead screw assembly for selectively transmitting rotational drive from the first and second motors to the lead screw assembly, the coupling assembly having a first engaged condition rotationally coupling the first motor to the lead screw assembly and driving moving the tool holder to rotate in a first direction, and a second engaged condition rotationally coupling the second motor to the lead screw assembly and driving moving the tool holder to rotate in a second direction opposite the first direction.
2. (Currently Amended) The cutting machine according to claim 1, wherein the first and second motors each include a rotational axis with the rotational axes parallel to one another.
3. (Currently Amended) The cutting machine according to claim 2, wherein the rotational axes are parallel to an axis of rotation of the tool holder-lead screw assembly axis.

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4. (Original) The cutting machine according to claim 1, wherein the coupling assembly includes first and second clutch/brakes respectively interconnected between the first and second motors and the lead screw assembly.

5. (Original) The cutting machine according to claim 4, wherein the coupling assembly includes first and second drive sprockets respectively receiving rotational drive from the first and second clutch/brakes.

6. (Original) The cutting machine according to claim 5, wherein the coupling assembly includes first and second driven sprockets supported on the lead screw assembly respectively coupled to the first and second drive sprockets by first and second belts.

7. (Currently Amended) The cutting machine according to claim 4, wherein each of the first and second clutch/brakes includes a double-acting piston movable between a clutch position and a brake position.

8. (Currently Amended) The cutting machine according to claim 1, wherein the first and second motors are simultaneously rotationally driven while with the tool holder is moving in both between the first and second directions.

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9. (Currently Amended) The cutting machine according to claim 8, wherein the coupling assembly includes at least one clutch/brake, and a controller commands the at least one clutch/brake to obtain at least one of the first and second engaged conditions.

10. (Currently Amended) The cutting machine according to claim 9, wherein lead screw assembly position sensors are connected to the controller providing lead screw assembly position information, the controller commanding at least one clutch/brake in response to the lead screw assembly position information.

11. (Currently Amended) A cutting process comprising the steps of:

- a) simultaneously generating rotational drive from rotating first and second drive motors;
- b) manipulating a coupling assembly and transferring rotational drive from the first drive motor to a tool holder while step a) occurs;
- c) moving the tool holder in a first direction;
- d) manipulating the coupling assembly and terminating transfer of rotational drive from the first drive motor to the tool holder and transferring rotational drive from the second drive motor to the tool holder while step a) continues; and
- e) moving the tool holder in a second direction opposite the first direction.

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12. (Original) The process according to claim 11, wherein step b) is performed in response to detecting a part to be machined.

13. (Currently Amended) The process according to claim 12, wherein step c) moves the tool holder toward the part to be machined.

14. (Original) The process according to claim 13, wherein step d) is performed in response to detecting a forward stroke position.

15. (Original) The process according to claim 12, wherein step b) is performed in response to detecting a rearward stroke position.

16. (Currently Amended) The process according to claim 11, wherein step d) is performed in response to detecting an overrun stroke position.

17. (Original) The process according to claim 11, wherein a lead screw is arranged between the tool holder and the first and second drive motors.

18. (Original) The process according to claim 17, wherein first and second clutch/brakes respectively are arranged between the first and second drive motors and the lead screw.

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19. (Original) The process according to claim 18, wherein steps b) and d) are performed by actuating a double acting piston in at least one of the clutch/brakes.

20. (New) The process according to claim 11, wherein a cutting tool driven by the tool holder rotates in a first direction during step b) and rotates in an opposed second direction during step d) such that the cutting tool cuts threads in a work piece during step b), and is removed from the work piece during step d).

21. (New) A cutting machine comprising:

a lead screw assembly having a tool holder;  
first and second motors; and  
a coupling assembly interconnecting the first and second motors to the lead screw assembly for selectively transmitting rotational drive from the first and second motors to the lead screw assembly, the coupling assembly having a first engaged condition rotationally coupling the first motor to the lead screw assembly and for moving the tool holder in a first direction, and a second engaged condition rotationally coupling the second motor to the lead screw assembly and moving the tool holder in a second direction opposite the first direction, the coupling assembly including at least one clutch associated with each of the first and second motors to allow selected

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transmission of rotational drive from the first and second motors to the lead screw assembly by selectively connecting or disconnecting the at least one clutch.

22. (New) The cutting machine according to claim 21, wherein the at least one clutch includes clutch/brake assemblies respectively interconnected between the first and second motors, and the lead screw assembly.